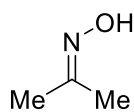


Name \_\_\_\_\_

1.

Provide the pKa values of these acids. You may round off the values to the nearest whole number.

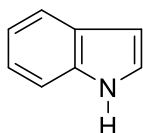
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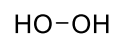
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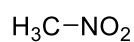
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4)



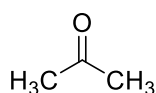
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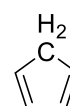
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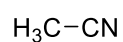
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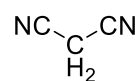
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9)



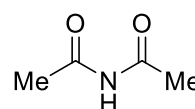
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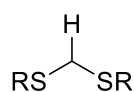
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12)



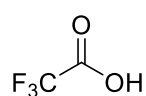
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14)



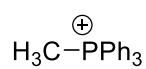
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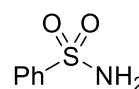
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17)



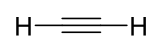
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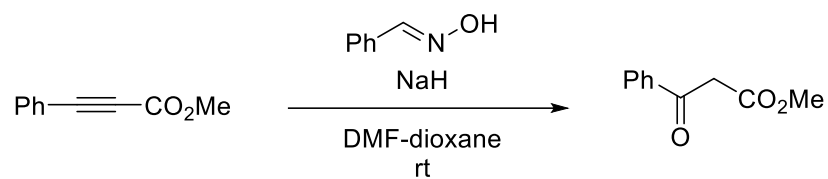


20)



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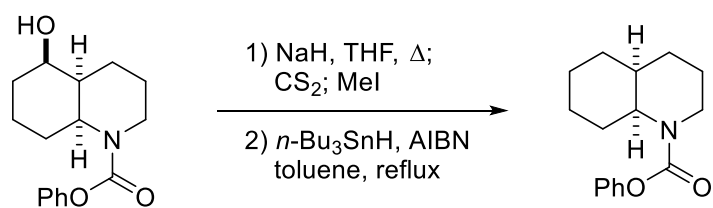
2.



演習で学ぶ有機反応機構(化学同人) B70  
J. M. Muchowski *et al.*, *J. Org. Chem.*, **59**, 1218 (1994)

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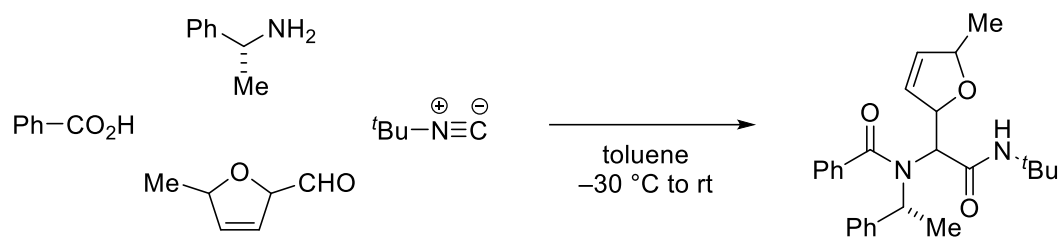
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演習で学ぶ有機反応機構(化学同人) A51  
A. H. Abdullah *et al.*, *Tetrahedron Lett.*, **26**, 43 (1985)

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4.

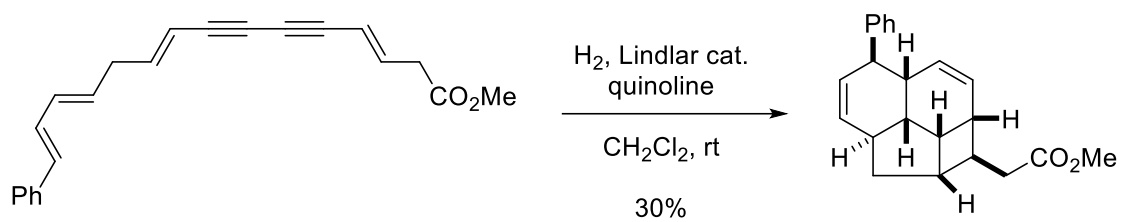


演習で学ぶ有機反応機構(化学同人) C007

M. M. Joullié *et al.*, *J. Am. Chem. Soc.*, **102**, 7505 (1980)

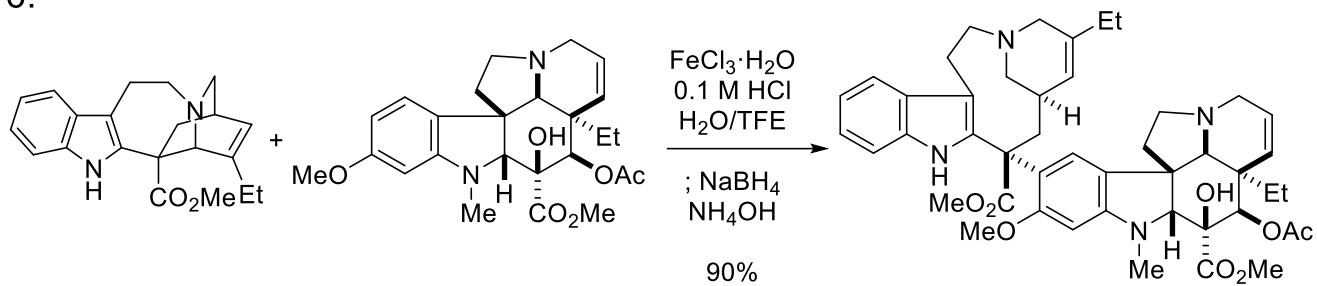
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5.

K. C. Nicolau *et al.*, *J. Am. Chem. Soc.*, **104**, 5560 (1982)

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6.

D. L. Boger *et al.*, *J. Am. Chem. Soc.*, **130**, 420 (2008)